5  I claim:

1.    A computer device having a system for simulating tactile control over a document, comprising

a processor, memory, and a display,

system code stored within the memory and adapted to be executed by the processor, said
10  system code for providing a digital representation of a document including data content and a page structure representative of a page layout of the document,

a rendering engine for rendering at least a portion of the page layout of the digital representation on the display,

a screen monitor for monitoring the screen to detect movement of an object across an
15  image presented on the display,

an interface process for processing the detected movement to detect a motion representative of a command to alter the rendered page structure of the digital representation, and

a navigation module responsive to the interface process for changing the rendered portion of the page layout, wherein altering the rendered portion of the page layout allows a user to
20  navigate through the digital representation of the document.


2.    A computer device according to claim 1, wherein the display comprises a touch-sensitive display, and

the screen monitor monitors a touch-sensitive screen for detecting movement across a
25  surface of the touch sensitive display.


3.    A computer device according to claim 1, wherein the display comprises a computer display capable of depicting a cursor moving across a screen of the display, and wherein

the screen monitor detects movement of the cursor across a surface of the display.
30

4.    A computer device according to claim 1, wherein the display comprises a display and a tactile input device selected from the group consisting of a touch-pad, a joystick, a mouse, a trackball and a thumb wheel device and wherein

the screen monitor detects movement indicated by the tactile device.
35

24

5.     A computer device according to claim 1, wherein the processor, memory, and a display are arranged as a data processing platform for a device selected from the group consisting of a hand-held computer, a telephone, mobile data terminal, a set top box, an embedded processor, a notebook computer, a computer workstation, a printer, a copier, a facsimile machine, in-car systems, domestic appliances, audio players, microwave, washing machines, fridges.

6.     A computer device according to claim 1, further including

a velocity detector for determining a velocity vector associated with motion detected across the surface of the touch-sensitive display.

7.     A computer device according to claim 6, further comprising means for applying a velocity characteristic to a document within a display.

8.     A computer device according to claim 1, wherein the interface process includes a page-flip detector for detecting a motion across the surface of a tactile input device at a location presenting a portion of the page layout graphically representative of a portion of a document.

9.     A computer device according to claim 8, wherein the tactile input device includes an input device selected from the group consisting of a touch-sensitive display, a touch-pad, a joystick, a mouse, a trackball and a thumb wheel device.

10.     A computer device according to claim 1, wherein the navigation module responds to the page-flip detector for rendering a portion of the page layout representative of a portion of the page layout adjacent a currently rendered portion .

11.     A computer device according to claim 10, wherein the rendered portion of the page layout has a selected adjacency to the currently rendered portion.

12.     A computer device according to claim 1, wherein the navigation module includes a page curl detector for rendering a portion of the page layout representative of a portion adjacent a currently rendered portion .

5

13. A computer device according to claim 12, wherein the rendered portion of the page layout has a selected adjacency to the currently rendered portion.

14. A computer device according to claim 1, wherein the interface process includes a
10 gesturing process for detecting a predefined movement representative of a command for selecting a portion of the page layout to be rendered.

15. A computer device according to claim 1, wherein the interface process includes a gesturing process for detecting a predefined movement representative of a command for altering
15 data content of the digital representation of the document.

16. A computer device according to claim 1, wherein the interface process includes a page-zoom detector for detecting a predefined movement and a velocity characteristic of the predefined movement, wherein the predefined movement is representative of a command for
20 changing the scale of a display as a function of the velocity characteristic.

17. A computer device according to claim 1, wherein the navigation module further includes means for rendering a display as a function of an underlying display, for providing context responsive rendering of content.

25

18. A computer device according to claim 17, wherein the means for rendering includes means for rendering display features and user interface controls while in an active state.

19. A computer device according to claim 1, further including
30 a tool document file stored in the memory and providing an internal representation of a document providing an image that is representative of a graphical tool,
tool code associated with the tool document file and capable of processing the digital representation of the document to present the digital representation in a manner that achieves a display effect associated with the tool.

35

5    20.    A computer device according to claim 19, wherein the tool document file includes

information representative of a graphical tool selected from the group consisting of a magnifying

tool, a ruler, a text entry cursor, a thumbnail navigation column, a thumbnail view of linked

content and a query tool.


10    21.    A computer device according to claim 19, further including

means for controlling a transparency characteristic of a document presented on the

display.


22.    A computer process according to claim 21, further including

15    means for controlling a transparency characteristic of selected portions of the document

for adjusting visibility of the selected portions relative to other portions of the document.


23.    A mobile computing device, comprising a housing which supports a processor, memory,

and a touch-sensitive display,

20    system code stored within the memory and adapted to be executed by the processor, said

system code for processing an input byte stream representative of content to be displayed on said

touch-sensitive display to generate a content document file representative of an internal

representation of the content,


25    a tool document file stored in the memory and providing an internal representation of a

document providing an image that is representative of a graphical tool,


tool code associated with the tool document file and capable of processing the content

document file to create an internal representation of the content that presents the content in a

30    manner that achieves a display effect associated with the tool, and


parsing code that processes the content document file, the tool document file, and the

processed internal representation to generate a screen document for display on the touch-

sensitive display in a manner that portrays the display effect.

5

24.      A mobile computer device according to claim 23, comprising

a motion engine for monitoring the touch-sensitive display and for detecting motion
across a surface of the touch-sensitive display.

10

25.      A mobile computer device according to claim 24, further comprising

a velocity detector for determining a velocity vector associated with motion detected
across the surface of the touch-sensitive display.

15

26.      A mobile computer device according to claim 25, further comprising means for applying
a velocity characteristic to a document within a display.

20      27.      A mobile computer device according to claim 23, wherein the tool document file includes
information representative of a graphical tool selected from the group consisting of a magnifying
tool, a ruler, a text entry cursor, a thumbnail navigation column, and a query tool.

28.      A mobile computer device according to claim 23, further comprising a gesture stroke
25      engine for detecting a plurality of strokes.

29.      A mobile computer according to claim 28, further comprising a character recognition
system for processing detected strokes and mapping said strokes to an alpha-numeric character.

30      30.      A mobile computer according to claim 28, further comprising a command recognition
system for processing detected strokes and mapping said strokes to a set of predetermined
display commands.

35      31.      A computer device having a context sensitive graphical interface tool, comprising

28

5          a processor, memory, and a touch-sensitive display,

a content document file stored in the memory and being representative of an internal

representation of the content,

a tool document file stored in the memory and providing an internal representation of a

document providing an image that is representative of the graphical interface tool,

10         tool code capable of running of the processor and being associated with the tool

document file and capable of processing the content document file to create an internal

representation of the content that when rendered presents the content in a manner that achieves a

display effect associated with the tool,

parsing code that processes the content document file, the tool document file, and the

15         processed internal representation to generate a screen document for display on the touch-

sensitive display, and

interface code capable of running on the processor for allowing a user to arrange the

image of the graphical interface tool into a selected contextual relationship over the rendered

content and for directing the tool code to process a portion of the content document file

20         associated with the selected position.


32.        A computer device according to claim 31, wherein the interface code includes means for

detecting a contextual relationship between the graphical interface tool and the rendered content,

wherein the contextual relationship is selected from the group consisting of the relative position

25         of the graphical interface tool and the rendered content, the time at which the graphical interface

tool acts on the rendered content, and the state of the rendered content.


33.        A computer device according to claim 31, wherein the processor, memory, and a display

are arranged as a data processing platform for a device selected from the group consisting of a

30         hand-held computer, a telephone, mobile data terminal, a set top box, an embedded processor, a

notebook computer, a computer workstation, a printer, a copier and a facsimile machine.


34.        A method for providing interface tools for manipulating a document on a display,

comprising

35

5          processing an input byte stream representative of the document to generate a content

document file representative of an internal representation of the content,


           providing a tool document file providing an internal representation of a document

providing an image that is representative of a graphical tool,

10

           providing tool code associated with the tool document file and capable of processing the

content document file to create an internal representation of the content that presents the content

in a manner that achieves a display effect associated with the tool, and


15         processing the content document file, the tool document file, and the processed internal

representation to generate a screen document for display on the touch-sensitive display in a

manner that portrays the display effect.


35.       A method according to claim 34, wherein providing tool code includes providing a set of

20    script instructions for processing information in said content document file.


36.       A computer readable medium having instructions stored thereon for a process comprising

           processing an input byte stream representative of the document to generate a content

document file representative of an internal representation of the content,

25         providing a tool document file providing an internal representation of a document

providing an image that is representative of a graphical tool,

           providing tool code associated with the tool document file and capable of processing the

content document file to create an internal representation of the content that presents the content

in a manner that achieves a display effect associated with the tool, and

30         processing the content document file, the tool document file, and the processed internal

representation to generate a screen document for display on the touch-sensitive display in a

manner that portrays the display effect.


37.       A method for providing a user-interface, comprising

5          providing a content document file having an internal representation of a document,

providing a tool document file having an internal representation of a graphical tool,

providing tool code associated with the tool document file,

having the tool code modify the content document file to include the graphical tool within the an internal representation of the content, and

10       rendering the modified content to generate a screen document for display.


38.    A method according to claim 37, wherein the tool code comprises a script.